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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,948	04/04/2002	Hideo Matsuoka	1098-02	8953

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IP GROUP OF DLA PIPER US LLP
ONE LIBERTY PLACE
1650 MARKET ST, SUITE 4900
PHILADELPHIA, PA 19103

EXAMINER	
PENG, KUO LIANG	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

C

Office Action Summary	Application No.	Applicant(s)	
	10/089,948	MATSUOKA ET AL.	
	Examiner	Art Unit	
	Kuo-Liang Peng	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/14/06 RCE*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17,20-31,41 and 42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17,20-31,41 and 42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed August 21, 2006 has been entered. Claims 1-16, 18-19, 32-40 are deleted. Claims 20, 21, 22-25 and 41-42 are amended. Now, Claims 17, 20-31 and 41-42 are pending.

2. Claim rejection(s) under 35 USC 112 in the previous Office Action (Paper No. 051306) is/are removed.

3. The text of those sections of Title 35, U.S. code not included in this action can be found in prior Office Action(s).

Claim Rejections - 35 USC § 112

4. Claims 17, 20-31 and 41-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The ranges of the polyamide amount, the polyphenylene sulfide resin amount **and** the melt viscosity ratio in claimed invention set forth in Claim 17 and that set forth in Claim 20 are either exactly the same or overlapped. As such, it is very confusing as to how the same compositions can have different morphologies. It appears that some **essential element(s)** of the present inventions are still missing.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 17, 20-31 and 41-42 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the

specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In Claims 17 (line 4), Examiner is not able to find a basis for the melt viscosity ratio of "1.1 to 10.0" for the **specific** claimed morphology.

In Claims 20 (line 4), Examiner is not able to find a basis for the melt viscosity ratio of "1.1 to 10.0" for the **specific** claimed morphology.

Claim Rejections - 35 USC § 102 and 103

7. Claims 17, 20 and 41-42 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Akhtar (Polymer Engineering and Science, 32(10) 690-698 (1992)).

Akhtar discloses a thermoplastic resin structure (i.e., dumbbell-shaped specimen)(page 692, left column) derived from a resin composition comprising a PPS and polyamides with various relative amounts of the two components (page 694 and Table 2). Akhtar's compositions possess the claimed morphologies. Akhtar does not explicitly describe the melt viscosity ratio of the two polymers. However, given similar polymer amounts and the morphologies, Examiner has a reasonable basis to believe that the compositions would possess the claimed melt

viscosity ratios. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

For Applicants' argument (Remarks, page 5, 2nd paragraph to page 6, first paragraph), Applicants show in the attached Table 1 that Akhtar's "N6" is equivalent to Applicants' N6-1. Applicants are advised to provide the attached Table 1 in an **affidavit/declaration** form. However, even if it is true, Akhtar's **melt viscosity ratio** is not necessarily the same as Applicants' Comparative Examples 2 and 4 because the melt viscosity ratio depends on **both** the melt viscosity of **PPS** and polyamide. It is noted that Applicants' show the MFR value of PPS-2 (Table 1 in Specification), while Akhtar shows the shear viscosity of PPS in Figure 2. Both of them are not melt viscosities. As such, Applicants' argument appears to be not persuasive. Furthermore, it appears that in addition to PPS/N6 blends, other blends can have the claimed morphology, e.g., PPS/N66 (70/30), etc. See Akhtar's Table 2.

8. Claims 17, 20-24 and 41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Selby (US 4 528 335) as evidenced by Akhtar.

Selby discloses a composition comprising a polyphenylene sulfide and a polyamide. (col. 1, lines 34-42, Table 1 and Examples) The relative amounts of the polyphenylene sulfide and the polyamide are exemplified in Examples. An inorganic filler can be used. (col. 3, line 62 to col. 4, line 20) The melt viscosity of the polyphenylene sulfide is described in col. 1, line 64 to col. 2, line 4 and Examples. Selby further teaches the use a polyamide having a degree of polymerization of up to about 500,000. (col. 2, line 50 to col. 3, line 24) Note that the melt viscosity of a polyamide is typically closely related the degree of polymerization thereof. Selby's compositions read on those of Applicants'. Therefore, Examiner has a reasonable basis to believe that Selby's composition inherently has the same properties as those of Applicants'. Since PTO does not have proper means to conduct experiments, the burden of proof is now shifted to Applicants to show otherwise. *In re Best*, 195 USPQ 430 (CCPA 1977).

For Applicants' argument (Remarks, page 6, 2nd paragraph), Selby discloses a series of PPS and polyamide blend in Table 1. Furthermore, Akhtar teaches that the specific gravity of a PPS is about 1.4 (page 690, right column) and that of a

polyamide can be as low as about 1.0 (Table 1). Therefore, Selby appears to disclose blends of PPS and polyamide having the claimed ranges of volume ratio.

9. Claims 17, 20-21 and 41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takagi (JP 05-185425).

Takagi discloses a thermoplastic resin structure formed of a resin composition comprising polyphenylene sulfide (PPS) and polyamide with various relative amounts of the two components. Different morphologies can be obtained by blending the two components in the atmosphere or under reduced pressure. (col. 2, lines 3-22, col. 4, lines 11-13 and Examples). Inorganic filler can be added (col. 2, lines 3-22). Since the **relative amounts** of the polyphenylene sulfide and the polyamide can fall within the range set forth in the instant claims, the presence of the **phase separation**, Examiner has a reasonable basis to believe Takagi's compositions possess the claimed ranges of melt viscosity ratio. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis

for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

For Applicants' argument (Remarks, page 6, 3rd paragraph to page 7, 2nd paragraph), Applicants alleged that Takagi's blend method cannot produce the claimed morphologies. However, the arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) Furthermore, the specific blending method is not claimed.

10. Claims 17, 20-22 and 41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Ono (JP 02-222452).

Ono discloses a molding thermoplastic resin structure formed of a resin composition comprising a polyphenylene sulfide (PPS) and a thermoplastic resin such as polyamide with various relative amounts of the two components. (page 3, lower left column to page 3, lower right column, page 4, upper two columns, Table 2 and Examples). The melt viscosity of the PPS is described in page 2, lower left column and Examples. Several commercially available polyamides are used in Examples. Notes that the relative amounts of the polyphenylene sulfide and the polyamide fall within the ranges of the instant claims and Ono's polymers are

those typical commercially available ones. The polyamide (PAS) can have a melt viscosity of 500 to 5,000 poise and the PPS can have a melt viscosity of 800-1000 poise (Translation, page 3, 3rd paragraph and page 6, line 14). As such, Ono does teach the claimed melt viscosity ratio. Therefore, Examiner has a reasonable basis to believe that Ono's component (A) can possess the same morphologies as those of Applicants. Since PTO does not have proper means to conduct experiments, the burden of proof is now shifted to Applicants to show otherwise. *In re Best*, 195 USPQ 430 (CCPA 1977).

For Applicants' argument (Remarks, page 7, 4th paragraph to page 8, 2nd paragraph), as mentioned above, the polyamide (PAS) can have a melt viscosity of 500 to 5,000 poise and the PPS can have a melt viscosity of 800-1,000 poise (Translation, page 3, 3rd paragraph and page 6, line 14). As such, Ono does teach the claimed melt viscosity ratio. Although Ono teaches the blending is performed in the presence of a solvent, the blend is precipitated from methanol. Furthermore, the morphology resulted from the phase separation is typically thermodynamically controlled, i.e., after thoroughly mixing, gradually the phase separation will occur. Mixing in the presence of a solvent merely results in a more homogenous blend of the polymer molecules before phase separation. As such, upon phase separation

later, homogeneity of the distribution of the dispersed phase in the continuous phase is enhanced.

11. Claims 17, 20-22 and 41-42 under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Deguchi (JP 03-215556).

Deguchi discloses a molding thermoplastic resin structure formed of a resin composition comprising a polyamide, a polyarylene sulfide and a layered silicate with various relative amounts of the two components. There is phase separation between the polyamide and the polyarylene sulfide. (page 2, lower left column, page 3, upper left column and lower right column, page 5, upper left column and Examples). The relative amounts of the polyarylene sulfide and the polyamide are described in page 3, upper left column. The **melt viscosity** of the polyarylene sulfide is described in page 3, lower left column. The molecular weight of the polyamide is described in page 3, upper right column. An inorganic filler can be used. (page 3, upper left column) Note that the **melt viscosity** of a polyamide is typically closely related the degree of polymerization thereof. Deguchi's compositions read on those of Applicants'. Examiner has a reasonable basis to believe Takagi's compositions possess the claimed ranges of melt viscosity ratio.

When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention but has basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

For Applicants' argument (Remarks, page 8, 3rd paragraph to page 9, 1st paragraph), the "particle dispersed phase" described by Applicants appears to refer to the **inorganic particles**. See page 4 2nd paragraphs of the translation of Deguchi.

12. Rejection of Claims 21-31 under 35 USC 103(a) is maintained (except the rejections based on JP172) because the rejection is adequately set forth in paragraph 9 of Paper No. 051306.

Applicants primarily argue that the rejections under 35 USC 102(b) in the previous Office action cannot sustain. However, this is not persuasive, supra.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (571) 272-1091. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

klp
December 7, 2006

Kuo-Liang Peng
Primary Examiner
Art Unit 1712